

R. A. COWELL.
Car-Movers.

No. 141,327.

Patented July 29, 1873.

Fig. 1.

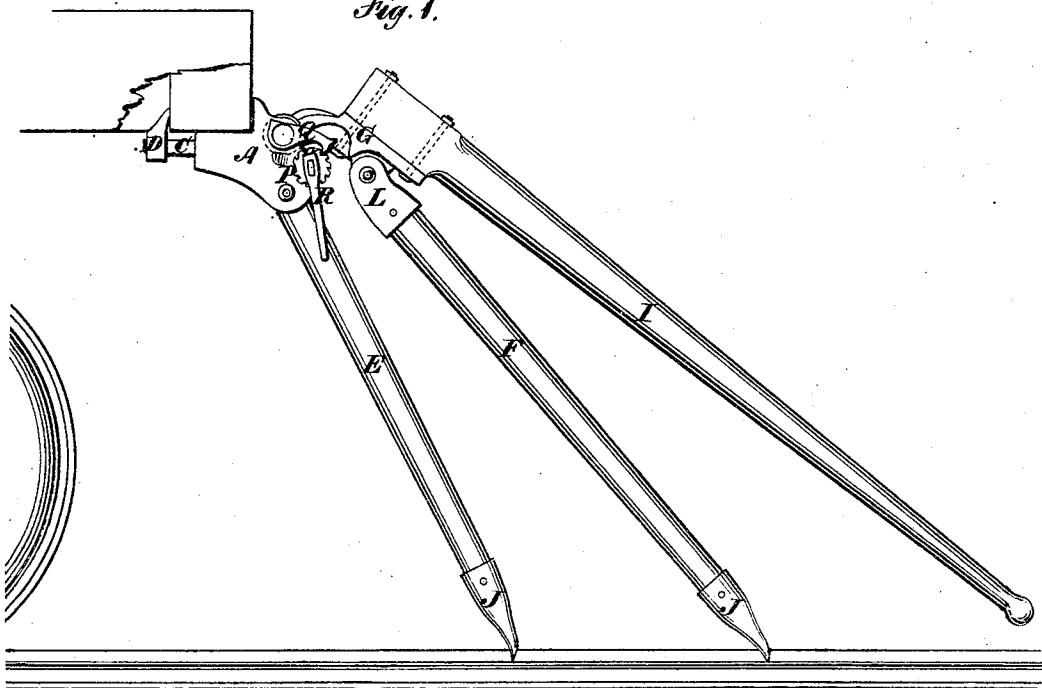


Fig. 2.

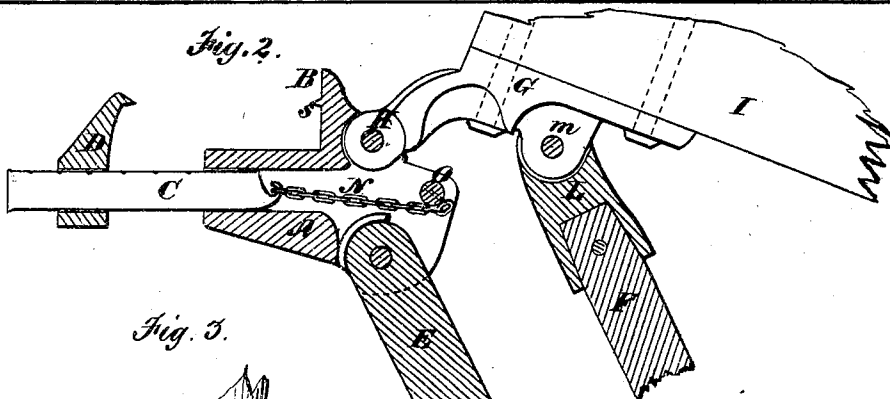


Fig. 3.

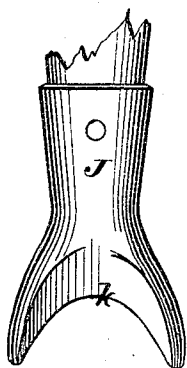
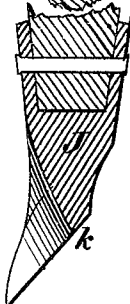


Fig. 4.



WITNESSES.

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RENSSELAER A. COWELL, OF CLEVELAND, OHIO.

IMPROVEMENT IN CAR-MOVERS.

Specification forming part of Letters Patent No. **141,327**, dated July 29, 1873; application filed June 18, 1873.

To all whom it may concern:

Be it known that I, RENSSELAER A. COWELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Car-Mover; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a side elevation of my improved car-mover applied to a car. Fig. 2 is a sectional view of the head of the mover. Fig. 3 is a front elevation of one of the claws or feet, and Fig. 4 is a vertical section of the same.

Similar letters of reference in the accompanying drawings denote the same parts.

My invention relates to that class of car-movers which, in general terms, consist in a compound or toggle lever provided with two pivoted staffs or legs to rest upon one of the rails of a railroad, a head to bear against the sill of the car to be moved, and a long handle pivoted to the head and rear leg. By the vibrations of this handle the two legs alternately move forward, one holding the car from running back, while the other pushes it forward. The object of my invention is to improve the construction of the car-mover; and to this end it consists, first, in the construction of the head of the mover and the method of pivoting the staves and operating-lever thereto; second, in the means by which the head is secured to the sill of the car; third, in adjusting the head to sills of different sizes; and, lastly, in the construction of the sockets which form the holding-feet of the staves, as I will now proceed to describe.

In the accompanying drawings, A is the cast-iron head of the mover, formed with a shoulder, B, to fit the sill of a car, as shown in Fig. 1, and with a longitudinal opening to receive the bar C of the holding-dog D. E is the forward or short staff pivoted to the under side of the head near its rear end, and F is the long staff pivoted to the under side of a plate, G, which is hinged at H to the upper side of the head immediately in rear of the shoulder B. I is the handle, firmly bolted to the plate G and extending to the rear of the machine, as shown in Fig. 1. J J are the feet of the staves, each cast in one piece from the best

car-wheel iron or steel, properly chilled, with sockets to receive the wooden portion of the staves, and with a bifurcated end to fit over the head of a railroad rail. The claws formed by the bifurcated ends are each beveled upon their rear sides, so as to form a sharp edge, *k*, in the axial line of the staff. This construction enables the claws to take a firm hold upon the rail to prevent slipping, and at the same time prevents them from breaking. If the edges were out of line with the axis of the staves their leverage would be so great as to render them liable to break when moving a heavy car. By my improvement, however, this difficulty is entirely overcome, because the position of the holding-edges, with respect to the staves, produces no leverage. By grinding the beveled sides of the claws from time to time the edges may be kept constantly sharp. L is a cast-metal socket to receive the head of the rear staff F, and is pivoted between lugs *m* cast upon the under side of the plate G, as shown. By this means the rear or pushing staff is strengthened and forms a secure connection with the lever-plate. The bar C of the holding-dog is connected by a chain, N, to a bolt, O, passing transversely through the rear of the head, and to this bolt, either within the head or outside thereof, is keyed a ratchet-wheel, P. Q is a pawl arranged to engage the ratchet, and R is a handle affixed to one end of the bolt for turning the same.

The mover thus constructed is applied to a car and operated to move it in the following manner: The head is first placed under the sill of the car and the staves swung back so that their claws shall embrace the head of the rail, as shown in Fig. 1. The head is held in place by grasping the car-sill between the shoulder B and the dog D, and the latter is locked firmly in position by operating the lever R to wind up the chain upon the bolt O. In this position it is prevented from slipping by the pawl and ratchet. The face of the shoulder B may be provided with a pin, *s*, if desired, to secure a more effectual hold upon the sill. By adjusting the holding-dog the head may be secured to car-sills of different sizes, as will be readily understood without further description.

The mover being in position, the vibrations

of the handle up and down cause the staves to hold alternately upon the rail to move the car forward. By this means the staves perform a kind of walking movement, the one holding what the other gains, and prevent the car from dropping back when moving up a grade.

Having thus described my invention, what I claim is—

1. An adjustable holding-dog combined with the hollow cast head of a car-mover, substantially as described, for the purpose specified.

2. The holding-dog D, operated from the head A by means of the sliding bar C, chain N, and the operating-bolt O, substantially as described, for the purpose specified.

3. In combination with the hollow head car-

rying the adjustable holding-dog, the hinged plate G carrying the operating-handle, and the pivoted staves carrying the holding-feet J, substantially as described.

4. The cast-metal feet J, formed with sharp holding-edges in the axial line of their staves, substantially as described, for the purpose specified.

5. The cast-metal staff-sockets, constructed with claws to embrace the tread of a railroad rail, when their rear faces are beveled to admit of their holding-edges being ground, substantially as described, for the purpose specified.

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Witnesses:

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